dLAN® 200 AVpro i

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Aachen, 6 November 2006

Preface

Thank you for placing your trust in this devolo product!

The dLAN 200 AVpro i is a network device that uses power and coaxial cables which have already been installed in order to provide data communication for applications such as HDTV streaming, Internet telephony, and fast Internet connection. Once it has been installed successfully, the dLAN network behaves like a conventional LAN. The dLAN 200 AVpro i supports a network speed of up to 200 Mbps and provides a powerful encryption function with maximum data security.

About this manual

In this manual, you will learn everything you need to know about your devolo dLAN 200 AVpro i. You will be shown how to start and configure the dLAN 200 AV device. In addition, the chapter 'All about the network' contains practical examples of the use of the dLAN 200 AVpro i.

This documentation was compiled by several members of our staff from a variety of departments in order to ensure you the best possible support when using your product.

For further information, please visit www.devolo.com

Our online services (www.devolo.com) are available to you around the clock should you have any queries or require any further support.

Package contents

Please ensure that the delivery is complete before beginning with the installation of your dLAN 200 AVpro i:

- dLAN 200 AVpro i
- Network cable
- Ethernet cable
- Coaxial cable
- Coaxial adapter
- Printed information leaflet
- CD containing software and online documentation

devolo AG reserves the right to change the package contents without prior notice.

Description of the symbols

Here we briefly describe the meaning of the symbols used in this manual.

Very important notice which, if ignored, may lead to damage.

Important notice which should be heeded.

Additional information which is useful to know, but not vital.

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1 Introduction

In this chapter, we will provide an overview of the dLAN technology and introduce the dLAN 200 AVpro i briefly.

1.1 What exactly is dLAN?

There is now an exciting new alternative to the familiar cable-based and wireless technologies, LAN and Wireless LAN: **dLAN** (**d**irect **L**ocal **A**rea **N**etwork, i.e. networked directly). dLAN uses power or coaxial cables that have already been installed to enable data communication.

Cost factor and transmission quality

dLAN is an economical and easy-to-use networking technology. Cables no longer need to be installed, and any socket or coaxial cable outlet can be used to connect to the network.

With dLAN, additional frequencies are modulated on the power and coaxial circuits. Modulation and demodulation is a well-known and proven method of data transmission, which has been in use in other applications for a number of years. Depending on the properties of the circuit and the damping factor, distances of 200 meters can be spanned with the power circuit; over 750 meters is possible over the coaxial circuit.

In order to transmit data over the power supply grid or the coaxial network, the dLAN 200 AVpro i is used in conjunction with Standard HomePlug AV. HomePlug AV uses the domestic power or coaxial infrastructure to transmit data, audio and video in just the same way as the proven HomePlug 1.0 technology. But HomePlug AV is much faster: with a transmission rate of 200 Mbps and its "Quality of Service: functions, HomePlug AV technology is ideal for Triple-Play services, and is thus entirely capable of handling the enormous range of new online entertainment options.

HomePlug AV and HomePlug 1.0 can be operated together on the same power network. Data can be exchanged between HomePlug 1.0 networks and HomePlug AV networks via a bridge. One HomePlug 1.0 adapter and one HomePlug AV adapter simply have to be plugged into adjacent sockets and connected directly with an Ethernet cable.

Data security and radiation

The dLAN 200 AV devices are protected with 128-bit AES encryption (Advanced Encryption Standard). This procedure represents reliable protection for your dLAN network against unauthorized access.

dLAN devices from devolo meet the stringent EU industrial standards and comply with the current standards for electromagnetic radiation.

1.2 What does the dLAN 200 AVpro i have to offer?

Powerful and flexible

The dLAN 200 AVpro i offers a transfer rate of up to 200 Mbps which makes it ideal for the high requirements of applications, such as HDTV streaming, Internet telephony and fast Internet.

In particular, the use of dLAN 200 AVpro i offers the following applications and advantages:

- Connection of computers and other network devices to a dLAN network via power or coaxial circuits
- Shared use of network resources
  - Files and applications
  - Peripherals such as printers, etc.
  - Centralized Internet access
- Sufficient bandwidth for high-requirement applications such as data, audio, and video
- Provision of digital services such as Internet telephony (Voice over IP – VoIP) to many points in the building
- Integration of multimedia devices such as set-top boxes etc. in the dLAN network
- Reduced requirement for long network cables
- Ethernet port with Auto MDI/X for automatic detection of network speed and contact seizure
- Powerful, 128-bit AES encryption to protect transmitted data from unauthorized access
- Transmission of data over greater distances (200 meters in the power supply grid, 750 meters or more in the coaxial network)
- Cost-effective, reliable solution for "high-speed" communication

Application examples of possible networks can be found in chapter 'All about the network'.

Simple installation

- Connect the dLAN 200 AVpro i to the computer or the network device using the Ethernet cable provided.
- Connect the dLAN 200 AVpro i to the power supply grid using the power adapter cable provided.
- In order to use the power supply grid as the transmission medium:
  Set the switch to "Hybrid".
- To use the coaxial network as the transmission medium:

  Connect the dLAN 200 AVpro i to the coaxial connector with the coaxial cable provided for this purpose. Set the switch to "Coax".
- Install the dLAN 200 AV software for assigning a password.
- That's it!

Connections and status displays

The dLAN 200 AVpro i is equipped with an Ethernet port for connection to a network device and with a coaxial port for connection to a coaxial socket.

The 5 control lamps (LEDs) of your dLAN 200 AVpro i display the connection status and provide status regarding the function of the data transmission.

2 Connection and Startup

This chapter covers the connectors and display elements of your dLAN 200 AVpro i and explains how to connect the device.

2.1 System requirements

- **Operating systems**: Windows 2000, Windows XP, Linux, Mac OS X and any other operating system with TCP/IP support
- **Ethernet connection**

Please note that your computer or other device must feature a network adapter with an Ethernet port.

To set up a dLAN 200 AVpro i network, you need at least two dLAN 200 AVpro i devices.

dLAN 200 AVpro i type devices are based on the HomePlug AV standard and cannot be used in a shared network with adapters, which are based on another standard than HomePlug. The different encoding methods are not compatible and cannot occupy the same infrastructure, i.e., if they are operated together on power and/or coaxial circuits, they interfere with each other, influencing transmission of data by either system.

2.2 Connection and display elements

The dLAN 200 AVpro i features 5 control LEDs as well as an Ethernet, coaxial, and a power connection:

Power	Lit steady when the dLAN 200 AVpro i is ready for operation; flashes when the dLAN 200 AVpro i is in Power Save mode.
dLAN Link/Act	Lit steady when a connection with the dLAN 200 AVpro i network exists; flashes when data is being sent or received via the power or coaxial circuits.
ETH 100/Act	Lit steady when a 100 Mbps connection to the Ethernet network exists; flashes when data is being transmitted.
ETH 10/Act	Lit steady when a 10 Mbps connection to the Ethernet network exists; flashes when data is being transmitted.
ETH Col	Flashes at a faster rate if the network is experiencing increasing use.

ETH	This is the connection point on the dLAN 200 AVpro i for connecting it to a computer or another network device with the network cable (included). The Auto-MDI(X) interface in the dLAN 200 AVpro i automatically detects when a contact is seized and determines the transmission rate of the connected network device.
Coax	Here you connect the dLAN 200 AVpro i to the coaxial connector using the coaxial cable supplied.
Coax/Hybrid	The switch must have been set to **"Hybrid"** to allow transmission across the **power supply grid**. The switch must have been set to **"Coax"** to allow transmission across the **coaxial network**.
AC	Here you connect the dLAN 200 AVpro i to the power supply using the power cable (included).

If no device that is switched on (e.g. computer) is connected to the Ethernet port, the dLAN 200 AVpro i switches to Power Save mode after about 20 minutes (Power LED flashes). In Power Save mode, the dLAN 200 AVpro i cannot be accessed via the power supply grid or the coaxial network. As soon as the device that is connected to the Ethernet port is switched on again, your dLAN 200 AVpro i is available again via the power supply grid or the coaxial network.

2.3 Connecting the dLAN 200 AVpro i

In this section, we will show you how to connect and start the dLAN 200 AVpro i.

① Use the included AC adapter cable to connect the dLAN 200 AVpro i to a power supply grid.

② Use the supplied Ethernet cable to connect the dLAN 200 AVpro i to the Ethernet connector on the computer that is switched on.

③ Select the transmission medium:

- To use the power supply grid as the transmission medium:
  The switch on the back of the device must have been set to "Hybrid" to allow transmission across the power supply grid.
- To use the coaxial network as the transmission medium:
  Connect the dLAN 200 AVpro i to the coaxial connector with the coaxial cable provided for this purpose.

  The switch on the back of the device must have been set to "Coax" to allow transmission across the coaxial network.

④ Continue with the installation of the devolo dLAN 200 AVpro i software. For more information, refer to the chapter on 'devolo dLAN 200 AV software'.

No drivers are required for running the dLAN 200 AVpro i.

3 devolo dLAN 200 AV software

In this chapter, we introduce the devolo software package, including dLAN Configuration Wizard, Informer, EasyShare and EasyClean. We will also provide instructions for installing the software and configuring your dLAN 200 AVpro i network with the help of the dLAN Configuration Wizard.

3.1 Overview of the devolo software

3.1.1 devolo dLAN Configuration Wizard

The dLAN Configuration Wizard is designed to assist you in setting up and modifying your encrypted dLAN 200 AVpro i network. With its help, you can add the desired dLAN 200 AVpro i adapters to your network. All dLAN 200 AVpro i devices that are on the network can be configured from one central location, i.e. your workstation. For the encryption, you need the dLAN 200 AVpro i Security IDs (see the bottom of the devices) and assign the network identifier chosen by you.

The default identifier set by devolo is ***HomePlugAV*** *(note upper and lower cases).*

3.1.2 devolo Informer

The Informer displays information about all the dLAN 200 AVpro i devices in your network, such as their MAC addresses and current connection rates.

Only when data is transmitted via the dLAN 200 AVpro i, the connection rates are displayed in the Informer

The MAC address (Media Access Control) is a serial number, and is unique for each device. It is hard-coded in each device and cannot be altered. You can find the MAC address on the bottom of the device.

3.1.3 devolo EasyShare

EasyShare is a file sharing and chat software package for your local network. It enables the simple exchange of files between local Windows computers. In addition, the integrated Chat function enables all network subscribers to communicate directly. EasyShare is extremely user-friendly and easy to operate.

3.1.4 devolo EasyClean

Microsoft Internet Explorer stores files in a cache on your hard drive while you surf the Internet. With EasyClean, you can determine which of these unwanted files you would like to delete.

3.2 Install the dLAN 200 AV software

① Insert the provided devolo product CD into the CD-ROM drive.

② Select 'Install dLAN 200 AV'. Windows launches the wizard. Then, click **Next**.

③ Select 'Standard Installation' to install the complete devolo dLAN 200 AV software package. Then, click **Next**.

*If you would like to choose the software components to be installed yourself, select 'Custom Installation'. Then, click **Next**.*

④ Complete and exit the installation by clicking **Finish**.

Windows may prompt you to restart your computer once the installation is complete.

⑤ When you have successfully completed the installation, select **Start** ▶ **Programs** ▶ **devolo** ▶ **dLAN Configuration Wizard**, **EasyClean**, **EasyShare** and **Informer** to run the software.

3.3 Configuring the dLAN 200 AV network with the devolo dLAN Configuration Wizard

Make sure that the Security IDs for the dLAN 200 AVpro i devices you noted earlier are available for reference. The dLAN Configuration Wizard needs these in order to configure the network. You can find the Security ID on the bottom of the device.

① Run the dLAN Configuration Wizard by selecting **Start** ▶ **Programs** ▶ **devolo** ▶ **dLAN Configuration Wizard**.

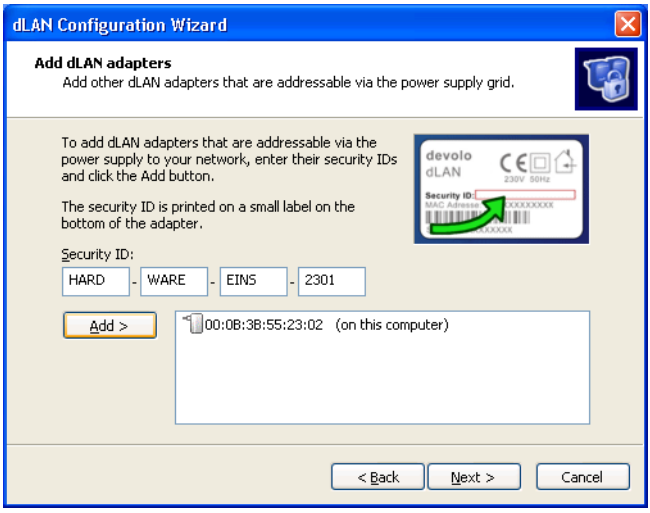
② Confirm your choice by clicking **Next**. The dLAN Configuration Wizard will start the network analysis and will search your network for dLAN 200 AVpro i devices.

If a device that has been switched off (e.g. a computer) is connected to the Ethernet port, a dLAN 200 AVpro i device switches to Power Save mode after about 20 minutes. In Power Save mode, the dLAN 200 AVpro i device cannot be accessed via the power supply grid or the coaxial network. As soon as the device that is connected to the Ethernet port is switched on again, your dLAN 200 AVpro i is available again via the power grid or the coaxial network.

③ In the following dialog box, select a shared identifier for your dLAN 200 AVpro i network, and click **Next** to confirm.

*The default identifier set by devolo is **HomePlugAV** (note upper and lower cases).*

④ The dLAN 200 AVpro i that is connected directly to your computer will be found automatically. All other dLAN 200 AVpro is must be registered manually. To do this, enter the Security IDs of the dLAN 200 AVpro is that are to be combined in a network one after the other, and click on **Add**. Click **Next** to confirm when you have entered all the dLAN 200 AVpro is you wish to add.


dLAN Configuration Wizard
Add dLAN adapters
Add other dLAN adapters that are addressable via the power supply grid.
To add dLAN adapters that are addressable via the power supply to your network, enter their security IDs and click the Add button.
The security ID is printed on a small label on the bottom of the adapter.
devolo
dLAN
Security ID:
Security ID:
HARD - WARE - EINS - 2301
Add >
00:0B:3B:55:23:02 (on this computer)
< Back
Next >
Cancel

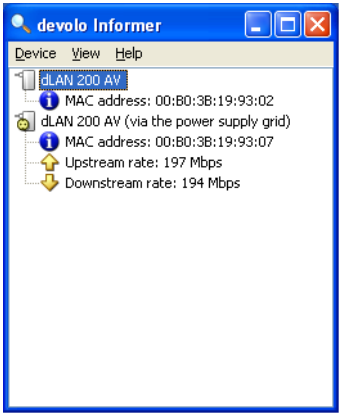
⑤ To exit the Security setup for your network, click on **Finish**. All the dLAN 200 AVpro i adapters that are entered in the list will receive the same ID. All dLAN 200 AVpro i adapters that have the same ID can exchange data among themselves. Adapters that have been installed on the same power supply grid or coaxial network, but which use different IDs, cannot commu-

nicate with each other. This assignment of IDs thus protects your dLAN 200 AV network from unauthorized access.

The configuration of the dLAN 200 AVpro i network can be changed or upgraded at any time. To do this, simply repeat the steps for configurating as described above.

3.4 Overview of the dLAN with the devolo Informer

With the Informer you can maintain a constant watch over all dLAN 200 AVpro i devices in your dLAN 200 AV network. The Informer shows the dLAN 200 AVpro i device that is connected directly to the computer and also all dLAN 200 AV devices that belong to the same dLAN 200 AVpro i network and can be accessed across it.



For example, the Informer shows the dLAN MAC address and the current connection data rate for each individual dLAN 200 AVpro i device. You can change the name of the marked device with the command **Device** ▶ **Rename**.

Right-clicking on one of the dLAN 200 AVpro i devices opens a context menu that contains the following commands:

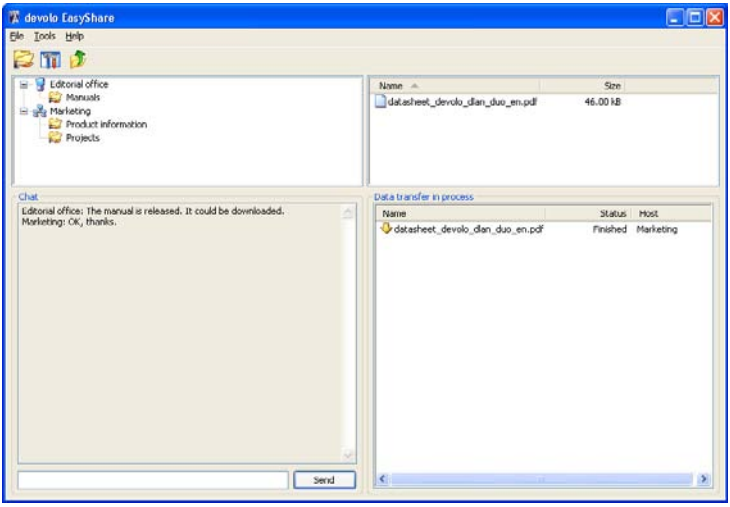
- 'Rename' opens a dialog box in which you can assign a new name to the device.
- 'Launch dLAN configuration wizard' opens a dialog box in which new dLAN 200 AVpro i devices can be added to the dLAN 200 AVpro i network; the network ID is also assigned in this dialog.

The Informer only shows those dLAN 200 AVpro i devices that are connected to the power grid or the coaxial network and have been added to your

dLAN 200 AVpro i network. If a device (e.g. computer) that is connected to the Ethernet port has been switched off, the dLAN device switches to Power Save mode after about 20 minutes. dLAN 200 AVpro i devices that are in Power Save mode do not appear in the Informer. As soon as the device (e.g. computer) that is connected to the Ethernet port is switched on again, your dLAN 200 AVpro i device can be reached via the power grid or the coaxial network again, and it is displayed in the Informer.

3.5 Communication in the network using devolo EasyShare

All users on the local network who have started EasyShare are automatically recognized by the program and listed:



3.5.1 Configuration

The EasyShare software provides two easy wizards, which will guide you quickly and easily through the configuration process: the first setup wizard, which starts automatically the first time the program is started, and the sharing wizard, which allows you to add shared items at any time. The individual functions of the EasyShare software are described here:

Folder sharing

To share data with others, a EasyShare network user has to make the data available in a shared folder. When a folder is shared, all of its files as well as the files of all its subdirectories become available to all users on the EasyShare network. Folders can be shared either by using the initial setup wizard, which opens automatically the first time the EasyShare is started, or by using the sharing wizard. You can open the sharing wizard by clicking the **Add share** button, or by selecting **File** ▶ **Add share** from the menu.

Options

Every computer has a name. When EasyShare is first installed, you can assign a new name to your computer or use the default name suggested by the operating system. Your computer is visible by this name to all EasyShare users.

The computer name can be changed at any time by clicking the **Options** button or by selecting **Tools** ▶ **Options** from the menu.

Refreshing shared folders

To view (newly) shared folders of other EasyShare network users, select **File** ▶ **Refresh** from the menu, or **Refresh** from the context menu (right mouse button). The contents of all shared folders will appear in the top right-hand window.

Downloading files

To download shared files from other EasyShare network users, select the computer belonging to the user and then mark the shared folder for that user. The upper-right window then lists all the contents of the folder. From the list, mark the files and/or folders that you want to download and then select **File** ▶ **Download** from the menu, or **Download** from the context menu (right mouse button). Choose a target folder on your computer and confirm by clicking **OK**. The files are now downloaded to your computer. The status of the download is displayed in the lower-right window entitled 'Data transfer in process'.

Data transfer in process

All 'Data transfer in process' are displayed in the lower right window and disappear from the screen once they are finished.

- The 'Name' column indicates the name of the file being downloaded.
- The 'Status' column shows the current transfer progress and the transfer speed.
- The 'Host' column shows the computer from which the file is being downloaded, or to which it is being uploaded from your computer.

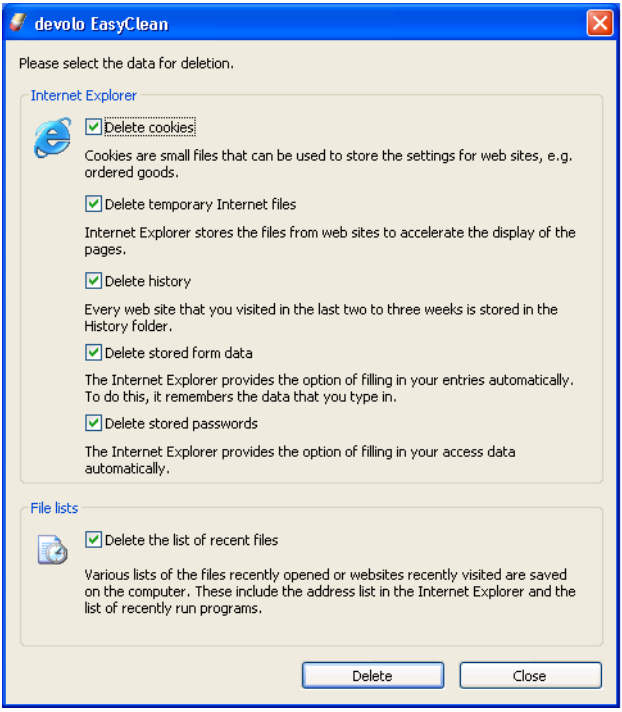
You can cancel the current download by clicking the file and selecting **Cancel** from the context menu (right mouse button).

Chatting

The lower left window functions as a chat room, which is visible and accessible to all EasyShare users on the local network. Users can "chat" by writing messages and clicking **Send**.

3.6 Maintain your privacy with devolo EasyClean

With EasyClean, you can delete the cached files listed below. Select the check-boxes of the file types you would like to remove, then click **Delete**.


devolo EasyClean
Please select the data for deletion.
Internet Explorer
Delete cookies
Cookies are small files that can be used to store the settings for web sites, e.g. ordered goods.
Delete temporary Internet files
Internet Explorer stores the files from web sites to accelerate the display of the pages.
Delete history
Every web site that you visited in the last two to three weeks is stored in the History folder.
Delete stored form data
The Internet Explorer provides the option of filling in your entries automatically. To do this, it remembers the data that you type in.
Delete stored passwords
The Internet Explorer provides the option of filling in your access data automatically.
File lists
Delete the list of recent files
Various lists of the files recently opened or websites recently visited are saved on the computer. These include the address list in the Internet Explorer and the list of recently run programs.
Delete
Close

- **Cookies**—Many websites store small files on your computer, so-called cookies. These files may contain personal information such as log-in data, passwords or credit card numbers.
- **Temporary Internet files**—Temporary files are stored on your hard drive while you surf the Net. Over time, these files take up a considerable amount of space.
- **History files**—Internet Explorer records your surfing activity over a period of days or weeks. This can be practical, but it also takes up space and can be undesirable in many cases.
- **Stored form information**—Internet Explorer stores information that you enter in forms and can auto-complete this information in the future.

- **Stored passwords**—Passwords can also be stored and automatically inserted together with usernames in subsequent log-in procedures. While this is convenient, it's also dangerous—especially in connection with bank transactions. Sensitive information such as this should only be stored locally in special programs designed for this purpose.
- **Document history**—Internet Explorer maintains lists of open documents and visited websites. This information is generally no longer needed.

Please note that EasyClean only supports Microsoft Internet Explorer.

4 All about the network

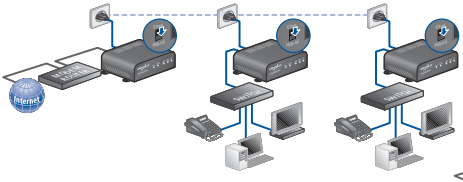
This chapter presents networking options that will illustrate the advantages of dLAN 200 AVpro i devices.

The dLAN 200 AVpro i adapters transmit in the frequency band between 2 and 28 MHz. If the adapters are being operated in a coaxial network that is not exclusively available for data transmission by dLAN 200 AVpro i adapters, a check must be made to determine whether existing television transmission frequencies experience interference. If interference does occur, please refer to the section "Use of coaxial filters" on page 24.

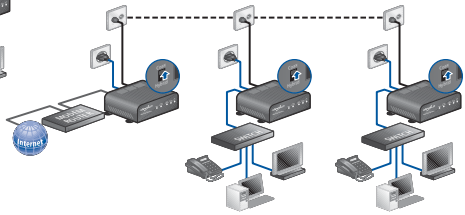
4.1 Networking and Internet access

dLAN 200 AVpro i adapters are used to connect network devices such as computers, routers, switches, IP telephones, set-top boxes etc. in a network using the existing power and coaxial cables.

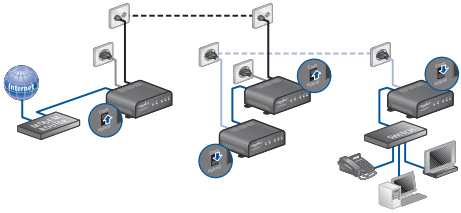
Data transmission over power supply grid



Data transmission over coaxial network



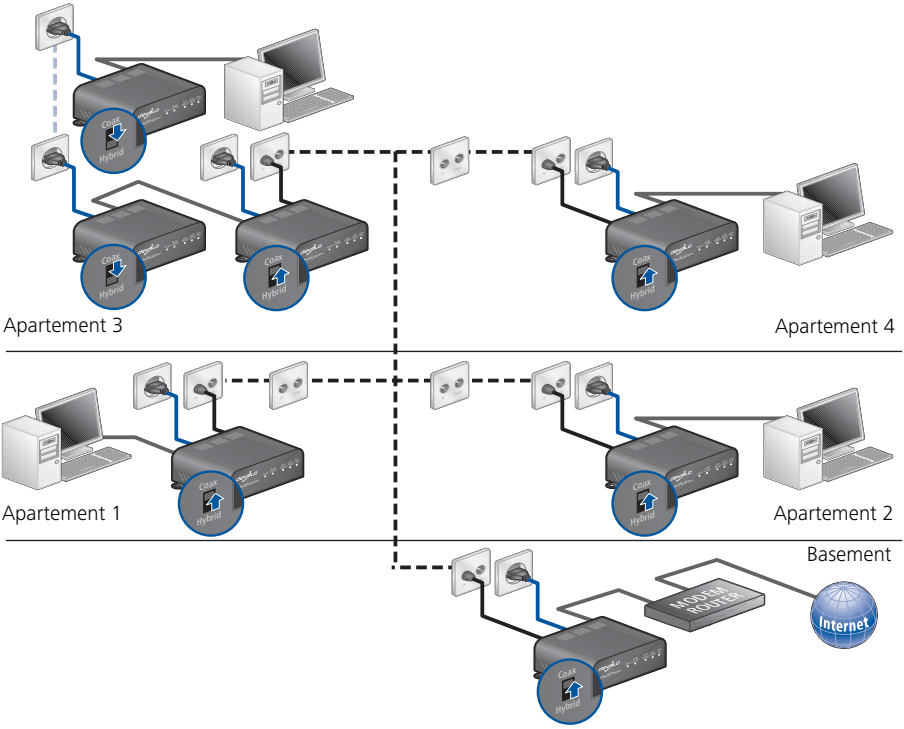
Data transmission over power and coaxial network (hybrid)



4.2 Networking a building

dLAN 200 AVpro i devices are able to make flexible use of the circuits that are already present in the rooms. The dLAN 200 AVpro i devices can connect all network subscribers over both circuit types even if the conditions within the

building change, and for example provide central Internet access to all connected network devices.



A repeater, consisting of two adapters, can be set up so that both circuit types – power circuit and coaxial circuit – can be used in a data network. To do this, one dLAN 200 AVpro i adapter for transmitting data over the power circuit, and one dLAN 200 AVpro i adapter for transmitting over the coaxial circuit are connected directly via an Ethernet cable (see Figure Apartment 3).

4.2.1 Example of networking in a hotel

Internet access is becoming increasingly important even for hotel guests – particularly for those traveling on business who want to review their e-mail or distribute presentations in the evening. It has long been commonplace for hotels to provide televisions in each room, so all the hotel rooms that are of concern are generally equipped with coaxial connections already. By using the dLAN 200 AVpro i devices, fast Internet connections can be offered as well as television in all these rooms with very little effort.

4.2.2 Example of networking in a hospital

Just as in the hotels, it is becoming more and more important to provide fast Internet access in hospitals as well, both for the staff and the patients. Since hospitals also tend to be well served with extensive systems of coaxial circuits, the dLAN 200 AVpro i devices can be used to provide more options for networking wards, treatment rooms, and the Administrative department for example, without the need to install completely new network circuits. The enormous ranges that are possible with coaxial circuits mean that connections can easily be extended even to include separate buildings, as is often the case with hospitals.

4.3 Use of coaxial filters

The transmission frequency of the wanted signal across coaxial circuits is between 2 and 28 MHz. It can happen that interference is emitted above this frequency range, which may interfere with the wanted signals of other applications. In this case, it is advisable to use a filter.

It is recommended to use a filter to decouple the dLAN 200 AVpro i signals from the transfer point of the TV signal. The filter can be accquired from devolo. A filter should be used

- when you want to isolate your dLAN 200 AVpro i network from the rest of the coax infrastructure, or to prevent the dLAN 200 AVpro i signal from interfering with other devices that are not included in your network.
- when you want to shield your dLAN 200 AVpro i network from interference by other transmissions in the same frequency range.
- when you want to protect your dLAN 200 AVpro i network from interference by a Docsis modem (or other cable modem) In this case, install a filter between the cable modem and the dLAN 200 AVpro i network.

For more answers to frequently asked questions (FAQs), please visit our website at www.devolo.com.

5 Appendix

5.1 Technical data

	dLAN 200 AVpro i
Standards	Ethernet specification IEEE 802.3, IEEE 802.3x, IEEE 802.3u Auto MDI(X) HomePlug AV
Protocols	CSMA/CA, TDMA
Transmission speed	up to 200 Mbps
Encoding	Asynchronous
Modulation	OFDM – 1155 carriers, 1024/256/64-QAM, QPSK, BPSK
Data path	Ethernet <-> Power supply grid Ethernet <-> Coaxial network
Range	200m over the power supply grid 750m over the coaxial network
Security	128-bit AES encryption over the power supply grid and the coaxial network
LEDs	Power dLAN Link/Act Ethernet 10/Act Ethernet 100/Act Ethernet Colision
dLAN port	Euro plug, coaxial connector
Computer port	RJ45
Power consumption	Max. 5.5 W
Power supply	AC 100 – 240 V, 50/60 Hz
Ambient conditions	Humidity (non-condensing): 10 - 90%
System requirements	Ethernet interface
Operating systems	Windows 2000, Windows XP, Linux, Mac OS X and any other operating system with TCP/IP support
CE conformity	CE conformity in accordance with the technical requirements for all EU countries and Switzerland
Construction	Plastic; 170 x 107 x 40 mm (Width x Depth x Height)
Warranty	3 years

5.2 Important safety instructions

It is essential to have read and understood all safety and operating instructions before the device is used for the first time; these should then be kept safely for future reference.

- Do not open the dLAN 200 AVpro i. There are no user-serviceable parts inside the dLAN 200 AVpro i.

Do not attempt to service the product yourself, call on qualified technicians for assistance with all service tasks! There is a danger of electric shock!

- Use the dLAN 200 AVpro i only in a dry location.
- Do not insert any objects in the openings in the dLAN 200 AVpro i.
- To disconnect the dLAN 200 AVpro i from the power supply grid, pull out the plug.
- Do not expose the dLAN 200 AVpro i to direct sunlight.
- Slits and apertures in the case are intended to provide ventilation and must not be blocked or covered.
- The dLAN 200 AVpro i must not be set up in close proximity to a radiator.
- The dLAN 200 AVpro i should only be set up in locations where adequate ventilation is assured in accordance with the manufacturer's instructions.
- Disconnect the dLAN 200 AVpro i from the power supply grid before cleaning. Never use water, paint thinner, benzene, alcohol or other strong cleaning agents when cleaning the device, as these could damage the case. Only use a slightly moist soft cloth.
- The dLAN 200 AVpro i should be operated exclusively on a public power supply as described on the rating plate. If you are not sure which kind of power supply you have at home, contact your dealer or your utility company.
- If the equipment is damaged, disconnect the dLAN 200 AVpro i from the mains and contact your after-sales service representative. Damage is deemed to have occurred
  - if the power cable or plug is damaged
  - if the dLAN 200 AVpro i is sprayed with liquid or if objects have got inside the device
  - if the dLAN 200 AVpro i has been exposed to rain or water
  - if the dLAN 200 AVpro i does not work, despite the fact that all operating instructions have been followed properly
  - if the case of the dLAN 200 AVpro i has been damaged.

5.3 CE conformity

The product conforms to the basic requirements of Directive 1999/5/EC (R&TTE) and the other relevant provisions of the FTEG (Radio and Telecommunications Terminal Equipment Act), and is designed for use in the EU and Switzerland.

This product is class A equipment. This equipment may cause interference with radio waves in home use; if this occurs the operator may be required to take corrective action.

5.4 Declaration of conformity

CE

KONFORMITÄTSERKLÄRUNG

DECLARATION OF CONFORMITY

Hersteller: Manufacturer:	**devolo AG** **Sonnenweg 11** **52070 Aachen**
Produkt: Product:	**devolo dLAN®200 AVpro i**
Typnummer: Type number:	**MT2077**
Verwendungszweck: Intended purpose:	**PLC, Coax zu Ethernet Adapter** PLC, Coax to Ethernet Adapter
Richtlinie: Directive:	**1999/5/EG (R&TTE)** 1999/5/EC (R&TTE)

Das Produkt entspricht den grundlegenden Anforderungen und Bestimmungen der folgenden Normen und Methoden:
The product complies with the essential requirements and provisions of following standards and methods:

Sicherheitsanforderungen: Safety requirements:	**EN 60950-1:2001**
Immunitätsanforderungen: Immunity requirements:	**EN 55024:1998+A1:2001+A2:2003**
Emissionsanforderungen: Emission requirements:	**EN 55022:1998+A1:2000+A2:2003 (Class A)** **und Expert Opinion vom Competent Body EMV** and Expert Opinion by Competent Body EMC

Diese Erklärung wird verantwortlich abgegeben durch:
This declaration is submitted by:

Aachen, 06. November 2006
Aachen, 6th November 2006

Heiko Harbers
Vorstandsvorsitzender
CEO

5.5 Warranty conditions

The devolo AG warranty is given to purchasers of devolo products in addition to the warranty conditions provided by law and in accordance with the following conditions:

1 Warranty coverage

a) The warranty covers the equipment delivered and all its parts. Parts will, at devolo's sole discretion, be replaced or repaired free of charge if, despite proven proper handling and adherence to the operating instructions, these parts became defective due to fabrication and/or material defects. Alternatively, devolo reserves the right to replace the defective product with a comparable product with the same specifications and features. Operating manuals and any supplied software are excluded from the warranty.

b) Material and service charges shall be covered by devolo, but not shipping and handling costs involved in transport from the buyer to the service station and/or to devolo.

c) Replaced parts become property of devolo.

d) devolo is authorized to carry out technical changes (e.g. firmware updates) beyond repair and replacement of defective parts in order to bring the equipment up to the current technical state. This does not result in any additional charge for the customer. A legal claim to this service does not exist.

2 Warranty period

The warranty period for this devolo product is three years. This period begins at the day of delivery from the devolo dealer. Warranty services rendered by devolo do not result in an extension of the warranty period nor do they initiate a new warranty period. The warranty period for installed replacement parts ends with the warranty period of the device as a whole.

3 Warranty procedure

a) If defects appear during the warranty period, the warranty claims must be made immediately, at the latest within a period of 7 days.

b) In the case of any externally visible damage arising from transport (e.g. damage to the case), the person responsible for the transportation and the sender should be informed immediately. On discovery of damage which is not externally visible, the transport company and devolo are to be immediately informed in writing, at the latest within 3 days of delivery.

c) Transport to and from the location where the warranty claim is accepted and/or the repaired device is exchanged, is at the purchaser's own risk and cost.

d) Warranty claims are only valid if a copy of the original purchase receipt is returned with the device. devolo reserves the right to require the submission of the original purchase receipt.

4 Suspension of the warranty

All warranty claims will be deemed invalid if

a) the label with the serial number has been removed from the device,

b) the device is damaged or destroyed as a result of acts of nature or by environmental influences (moisture, electric shock, dust, etc.),

c) the device was stored or operated under conditions not in compliance with the technical specifications,

d) the damage occurred due to incorrect handling, especially due to non-observance of the system description and the operating instructions,

e) the device was opened, repaired or modified by persons not authorized by devolo,

f) the device shows any kind of mechanical damage,

g) the warranty claim has not been reported in accordance with 3a) or 3b).

5 Operating mistakes

If it becomes apparent that the reported malfunction of the device has been caused by unsuitable software, hardware, installation or operation, devolo reserves the right to charge the purchaser for the resulting testing costs.

6 Additional regulations

a) The above conditions define the complete scope of devolo's legal liability.

b) The warranty gives no entitlement to additional claims, such as any refund in full or in part. Compensation claims, regardless of the legal basis, are excluded. This does not apply if e.g. injury to persons or damage to private property are specifically covered by the product liability law, or in cases of intentional act or culpable negligence.

c) Claims for compensation of lost profits, indirect or consequential detriments, are excluded.

d) devolo is not liable for lost data or retrieval of lost data in cases of slight and ordinary negligence.

e) In the case that the intentional or culpable negligence of devolo employees has caused a loss of data, devolo will be liable for those costs typical to the recovery of data where periodic security data back-ups have been made.

f) The warranty is valid only for the first purchaser and is not transferable.

g) The court of jurisdiction is located in Aachen, Germany in the case that the purchaser is a merchant. If the purchaser does not have a court of jurisdiction in the Federal Republic of Germany or if he moves his domicile out of Germany after conclusion of the contract, devolo's court of jurisdiction applies. This is also applicable if the purchaser's domicile is not known at the time of institution of proceedings.

h) The law of the Federal Republic of Germany is applicable. The UN commercial law does not apply to dealings between devolo and the purchaser.

6 Troubleshooting

The dLAN 200 AVpro i has been intentionally designed to be as reliable and easy to operate as possible. This chapter includes a few notes that are designed to help you locate the possible fault in the event of a malfunction

The Power LED is flashing

① The device is in Power Save mode. Check whether the device has an active Ethernet connection.

The Power LED does not light up

① Check that the power cable is connected properly to the power connector on the device.

② Make sure that the device is connected directly to a socket, and that the socket is live.

③ Try using a different socket.

The dLAN Link/Act LED does not light up

① Make sure that there is not an analog TV amplifier or too many T-splitters between the dLAN 200 AVpro i devices that should be communicating with each other.

② Try connecting two dLAN 200 AVpro is with a short coaxial cable to carry out a quick connectivity test.

The Ethernet LED does not light up

① Make sure that the dLAN 200 AVpro i is connected to a device with an Ethernet port by an RJ-45 cable, and that both devices are switched on.

Safety instructions

① In order to switch the device off completely, pull the power cable out of the socket.

② Never install the devices in a wet location or close to radiators/heat sources.

③ Never use the device outside.

④ Do not remove the device case under any circumstances.